Aviation Investigation Final Report

Location:	Fults, Illinois	**Accident Number:**	CEN15LA323
Date & Time:	July 14, 2015, 14:56 Local	**Registration:**	N2764G
Aircraft:	Cessna 182B	**Aircraft Damage:**	Destroyed
Defining Event:	Sys/Comp malf/fail (non-power)	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Skydiving		

Analysis

The commercial pilot was conducting a local skydiving flight with four skydivers. After the airplane climbed to 3,800 ft, one of the skydivers deployed, and at 11,000 ft, the remaining three skydivers deployed. The pilot stated that the procedure for deploying skydivers was to input 10° of flaps before the skydivers' deployment. After the last skydiver exited the airplane, the pilot closed the door and started to retract the flaps from 10° to 0°. The pilot heard a "metallic" snap, and the airplane went into a spin. The pilot recovered the airplane from the spin about 7,000 ft. He discovered that the right flap was partially deployed about 5° down and appeared to be crooked in its track. In addition, he noted a vibration from the right flap with restricted aileron control. The pilot stated that lateral control was difficult to maintain. After a radio conference with a mechanic and about 30 minutes of trying to control the airplane, the pilot chose to bail out of the airplane; he maneuvered the airplane over unpopulated farmland, shut down the engine, and parachuted. The pilot watched the airplane circle after his parachute deployed. The pilot landed and did not sustain injuries; the airplane impacted terrain and sustained substantial damage.

Examination of the wreckage revealed that the right flap showed evidence of preimpact contact with the right aileron. There was about 1/2 inch of rubbed exposed primer in the area of the contact. The right flap appeared to be misaligned in its track, and the outboard portion of the flap would not freely extend from the retracted position. The outboard side of the flap was retracted, and the inboard side was extended in the track. Due to damage from impact forces, the preimpact condition of the flap rollers and tracks could not be determined. A broken control cable inboard of the flap bell crank was rusty in the area of separation. It is likely that the right flap interfered with the right aileron and thus resulted in restricted aileron movement in flight. Review of maintenance records did not show any recent work performed on the flap control system. The airplane had flown about 80 hours since its most recent annual inspection.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The malfunction of the flap assembly, which resulted in a restriction of aileron control. Contributing to the accident was maintenance personnel's inadequate inspection of a corroded flap control cable.

Findings

Aircraft	TE flap control system - Malfunction
Personnel issues	Scheduled/routine inspection - Maintenance personnel

Factual Information

History of Flight

Prior to flight	Aircraft inspection event
Maneuvering	Sys/Comp malf/fail (non-power) (Defining event)
Maneuvering	Attempted remediation/recovery
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On July 14, 2015 about 1456 central standard time, a Cessna 182B airplane, N2764G, registered to Cook Aviation of St. Louis, Missouri, was substantially damaged when it impacted terrain after the pilot bailed out (via donned parachute) due to flight control problems. There were no occupants on board when the airplane impacted the terrain. The sky dive flight had been conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91 prior to the bail out. Visual meteorological conditions prevailed throughout the area and no flight plan was filed. The flight departed from the Festus Memorial Airport (FES), Festus, Missouri, about 1415.

The pilot picked up four skydivers at FES. After climbing to 3,800 ft, one of the skydivers deployed, and at 11,000 ft, the remaining three skydivers deployed. According to the pilot's statement, the procedure for deploying skydivers was to input 10° of flaps prior to the skydivers' deployment. After the last skydiver exited the airplane, the pilot closed the door and started to retract the flaps from 10° to 0°. The pilot heard a "metallic" type snap noise and the airplane went into a spin. The pilot recovered the airplane from the spin about 7,000 ft. He discovered that the right flap was partially deployed about 5° down and appeared to be crooked in its track. In addition, he reported that there seemed to be a vibration present from the right flap with restricted aileron control. The pilot stated that lateral control was difficult to maintain.

On the airplane radio, the pilot contacted an airframe and powerplant (A&P) mechanic, who was based at FES, to discuss the flap malfunction. The pilot then attempted to execute a straight-in landing at FES, but initiated a go-around when he was not able to maintain lateral control as the airplane slowed on approach. After attempting to change the flap position, only the right left flap responded and the right flap stayed in the 5° position. After 30 minutes of trying to control a slow spin, it was determined between the pilot and the A&P mechanic that the pilot should bail out of the airplane. The pilot then maneuvered the airplane over unpopulated rural farmland to the east of FES. The pilot parachuted from the airplane after shutting down the engine. The pilot watched the airplane circle around him after his parachute deployed. The airplane impacted a bluff with no post impact fire. The pilot sustained no injuries from the event.

Examination of the wreckage revealed that the top outboard section of the right showed evidence of pre-impact contact with the bottom inboard side of the right aileron. There was about 1/2 inch of rubbed exposed primer in the area of the contact. The right flap appeared to be misaligned in its track, and the outboard portion of the flap would not freely extend from the retracted position. The outboard side of the flap was retracted and the inboard side was extended in the track. There was a broken control cable

inboard of the flap bell crank that was found dirty and rusty in the area of the break. The right flap showed pre-impact evidence of contact with the right aileron. Due to impact forces, the pre-impact condition of the flap rollers and tracks could not be determined. A review of maintenance records did not show any recent work performed on the flap control system. The airplane had an annual inspection completed on May 18, 2015, and had flown about 80 hours since that inspection.

Pilot Information

Certificate:	Commercial; Private	**Age:**	19
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	June 24, 2015
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	May 1, 2015
Flight Time:	375 hours (Total, all aircraft), 200 hours (Total, this make and model), 350 hours (Pilot In Command, all aircraft), 200 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N2764G
Model/Series:	182B B	**Aircraft Category:**	Airplane
Year of Manufacture:	1959	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	52064
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	May 18, 2015 Annual	**Certified Max Gross Wt.:**	2348 lbs
Time Since Last Inspection:	80 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	7995 Hrs at time of accident	**Engine Manufacturer:**	CONT MOTOR
ELT:	Installed, not activated	**Engine Model/Series:**	O-470 SERIES
Registered Owner:	On file	**Rated Power:**	230 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None / 25000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/ None	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	340°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.76 inches Hg	**Temperature/Dew Point:**	34°C / 22°C
Precipitation and Obscuration:			
Departure Point:	Festus, MO (FES)	**Type of Flight Plan Filed:**	None
Destination:	Festus, MO (FES)	**Type of Clearance:**	Traffic advisory
Departure Time:	14:15 Local	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	38.189723,-90.240554(est)

Administrative Information

Investigator In Charge (IIC):	Lemishko, Alexander
Additional Participating Persons:	George A Holtman; FAA FSDO; St. Louis, MO Jan Smith; Cessna; Wichita, KS
Original Publish Date:	April 13, 2020
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=91654